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EXAMINER

SPITTLE, MATTHEW D

ART UNIT	PAPER NUMBER
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2111

DATE MAILED: 06/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/757,884	Applicant(s) MOLANDER ET AL.	
	Examiner Matthew D. Spittle	Art Unit 2111	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1 – 20 have been examined.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 – 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. in view of Lien et al., in view of Deng et al., and further in view of Learning.

Regarding claim 1, Moran et al. teach a portable storage device (item 10) comprising:

A host device (identified as a computer; paragraph 20) which has an operating system that logically recognizes the portable storage device as additional local memory (paragraphs 3, 21);

A computer readable storage medium that is intrinsic to the portable storage device (paragraph 9; item 18);

Moran et al. fail to teach computer program instructions initiated in response to a manual input at an actuator, and said computer program instructions for removing, from a host device list of available storage locations, a computer readable storage medium that is intrinsic to the portable storage device.

Lien et al. teach computer program instructions (interpreted as a combination of the OS and resource manager; column 5, line 51 – column 6, line 24) initiated in response to a manual input at an actuator (interpreted as an adapter removal button; Figure 2, item 12), said computer program instructions for removing, from a host device list of available storage locations, a computer readable storage medium that is intrinsic to the portable storage device (column 2, lines 43 – 63) for the purpose of preventing the removal of the computer readable storage medium from interfering with I/O processes being conducted on it, thereby ensuring a more reliable system.

This specific problem with USB portable storage devices, as taught by Moran et al., is further explained in Deng et al. (paragraph 90) and in Learning (column 6, lines 52 – 57).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the computer program instructions and actuator as taught by Lien et al. into the portable storage device as Moran et al. for the purpose of safely removing the portable storage device without data loss or interfering

with other I/O processes being conducted on it. This would have been obvious in order to make the system more reliable.

Regarding claim 2, Lien et al. teach the additional limitation wherein the computer program instructions comprise an interrupt command directed to the operating system of said host device (column 4, lines 30 – 35).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. in view of Lien et al., in view of Deng et al., in view of Learning, and further in view of Wright et al.

Regarding claim 3, Moran et al., Lien et al., Deng et al., and Learning fail to teach wherein the storage medium in which the computer program is embodied comprises said intrinsic computer readable storage medium of said portable storage device.

Wright et al. teach storing program instructions in an intrinsic computer readable storage medium of said portable storage device (Figure 3, item 112; column 2, lines 28 – 49) for the purpose of eliminating the need to store the program instructions on another form of media, reducing the costs of the portable storage device, and making the necessary program instructions available whenever the portable storage device is connected.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the program instructions as taught by Wright et al. into the intrinsic computer readable storage medium of said portable

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storage device as taught by Moran et al., Lien et al., Deng et al., and Learning in order to reduce the cost of the portable storage device, and more convenient to use.

Regarding claim 4, Moran et al. teach the additional limitation wherein said computer program instructions further comprise instructions to control an indication of at least one state of an indicator of said portable storage device, the at least one state selected from the group: normal-inactive (LED 26 off), normal-active (LED 26 illuminated), error (LED 26 blinking), and ready-to-be-removed (paragraph 26; Examiner interprets the LEDs (items 22, 24, 26) as indicators).

* * *

Claims 5 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. in view of Lien et al., in view of Deng et al., and further in view of Learning.

Regarding claim 5, Moran et al. teach a body (Examiner takes official notice that it would be obvious to one of ordinary skill in this art at the time of invention by applicant to house all of the components of item 10 in a body for the purpose of protecting and encasing the electronic components within);

An intrinsic computer readable storage medium within said body (Figure 1, item 18);

A connector (item 14) for removably coupling to a host device such that an operating system of the host device may logically recognize the portable storage device as additional local memory (paragraphs 3, 21);

A manual actuator (28, 30, 32);

An indicator (22, 24, 26);

Moran et al. fail to teach wherein the indicator, following actuation of said actuator, that said portable storage device may be safely removed from a host device to which it is coupled.

Lien et al. teach an indicator (interpreted as a lock mechanism; Figure 3, item 10a), following actuation of said actuator (interpreted as an adapter removal button; Figure 2, item 12), that said portable storage device may be safely removed from a host device to which it is coupled (column 6, lines 1 – 25) for the purpose of preventing the removal of the computer readable storage medium from interfering with I/O processes being conducted on it, thereby ensuring a more reliable system.

This specific problem with USB portable storage devices, as taught by Moran et al., is further explained in Deng et al. (paragraph 90) and in Learning (column 6, lines 52 – 57).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the computer program instructions and actuator as taught by Lien et al. into the portable storage device as Moran et al. for the purpose of safely removing the portable storage device without data loss or interfering

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with other I/O processes being conducted on it. This would have been obvious in order to make the system more reliable.

Regarding claim 6, Lien et al. teach the additional limitation wherein said manual actuator is for requesting that a host device grant permission to remove said portable storage device, and said indicator indicates, in response to said host device granting said permission, that said portable storage device may be removed from said host device without loss of data and without corruption of data (column 1, lines 59 – 65; column 2, lines 43 – 63; column 5, line 51 – column 6, line 25).

Regarding claim 7, Lien et al. teach the additional limitation wherein said indicator comprises a tactile indicator (Examiner interprets the disengaging of the lock mechanism as tactile since the user can then remove the portable storage device, assumingly with his/her hand).

Regarding claim 8, Lien et al. implicitly teach the additional limitation comprising a microcontroller coupled between said actuator and said connector (Figure 2, item 9). Examiner interprets a microcontroller as including a CPU, memory, and I/O. Therefore, components 4, 5, and 6 in Figure 2 comprise a microcontroller.

Regarding claim 9, Lien et al. implicitly teach the additional limitation wherein said microcontroller transfers a signal toward said connector in response to actuation of

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said manual actuator (column 6, lines 11 – 18 teach the resource manager transfers a signal to the connector to release the mechanical lock. Since resource manager is defined to run in software (column 4, lines 46 – 50), and software runs on a processor with memory, Examiner interprets Lien et al. to implicitly meet this limitation.

* * *

Claims 10 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. in view of Lien et al., in view of Deng et al., in view of Learning, and further in view of Wright et al.

Regarding claim 10, Lien et al. teach wherein said signal comprises an interrupt command (column 4, lines 30 – 35).

Lien et al. fail to teach wherein the interrupt command is stored in said intrinsic computer readable storage medium of said portable storage device.

Wright et al. teach storing program instructions in an intrinsic computer readable storage medium of said portable storage device (Figure 3, item 112; column 2, lines 28 – 49) for the purpose of eliminating the need to store the program instructions on another form of media, reducing the costs of the portable storage device, and making the necessary program instructions available whenever the portable storage device is connected.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the program instructions as taught by

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Wright et al. into the intrinsic computer readable storage medium of said portable storage device as taught by Moran et al., Lien et al., Deng et al., and Learning in order to reduce the cost of the portable storage device, and more convenient to use.

Regarding claim 11, Lien et al. teach the additional limitation wherein said signal comprises a request to remove said portable storage device from a list of devices available to a host device to which it may be coupled (column 5, line 51 – column 6, line 25; Figure 6 shows a list of devices (interpreted as adapters)).

Regarding claim 12, Lien et al. teach wherein said signal comprises a request for the operating system of the host device (Figure 2, item 1) to execute an interrupt command that may be stored within said host device (column 4, lines 30 – 35).

Regarding claim 13, Moran et al. teach the additional limitation wherein said indicator uniquely indicates at least three states when portable storage device is coupled to a host device, said three states comprising (paragraph 26):

A normal inactive state whereby no transfer of computer instructions is ongoing between said portable storage device and said host device (LED 26 off);

A normal active state whereby a transfer of computer instructions is ongoing between said portable storage device and said host device (LED 26 illuminated);

Moran et al fail to teach a ready-to-be-removed state whereby, following actuation of said actuator, the portable storage device may be removed from the host device to which it is coupled without loss of corruption of data.

Examiner takes official notice that it is old and well known in this art to use an LED indicator to indicate when a hot-pluggable device, such as the portable storage device of Moran et al. can safely be removed. This is evidenced by Papa et al. (column 6, lines 51 – 53, 62 – 64), Jeffries et al. (column 3, lines 13 – 16), and Chen et al. (column 3, lines 3 – 4).

* * *

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. in view of Lien et al., in view of Deng et al., and further in view of Learning.

Regarding claim 14, Moran et al. teach a body (Examiner takes official notice that it would be obvious to one of ordinary skill in this art at the time of invention by applicant to house all of the components of item 10 in a body for the purpose of protecting and encasing the electronic components within);

An intrinsic computer readable storage medium within said body (Figure 1, item 18);

A connector (item 14) for removably coupling to a host device such that an operating system of the host device may logically recognize the portable storage device as additional local memory (paragraphs 3, 21);

A manual actuator (28, 30, 32);

An indicator (22, 24, 26);

Wherein said indicator uniquely indicates at least three states when portable storage device is coupled to a host device, said three states comprising (paragraph 26):

A normal inactive state whereby no transfer of computer instructions is ongoing between said portable storage device and said host device (LED 26 off);

A normal active state whereby a transfer of computer instructions is ongoing between said portable storage device and said host device (LED 26 illuminated);

Moran et al fail to teach a ready-to-be-removed state whereby, following actuation of said actuator, the portable storage device may be removed from the host device to which it is coupled without loss of corruption of data.

Examiner takes official notice that it is old and well known in this art to use an LED indicator to indicate when a hot-pluggable device, such as the portable storage device of Moran et al. can safely be removed. This is evidenced by Papa et al. (column 6, lines 51 – 53, 62 – 64), Jeffries et al. (column 3, lines 13 – 16), and Chen et al. (column 3, lines 3 – 4).

Wherein said indicator indicates said ready-to-be-removed state by a lack of illumination, and indicates each of said normal inactive state and said normal active state by illumination (Examiner takes official notice that it is old and well known in this art to indicate ready-to-be-removed state by lack of illumination, as evidenced by Papa et al. (column 6, lines 51 – 53, 62 – 64), Jeffries et al. (column 3, lines 13 – 16).

Examiner notes that in the case of normal active and normal inactive state, Moran et al.

teach that LED 22 remains illuminated regardless, with LED 26 alternating, depending on whether a data transfer is taking place, and therefore both of these states could be broadly interpreted to be indicated by illumination.

Moran et al. fail to teach wherein the indicator, following actuation of said actuator, that said portable storage device may be safely removed from a host device to which it is coupled.

Lien et al. teach an indicator (interpreted as a lock mechanism; Figure 3, item 10a), following actuation of said actuator (interpreted as an adapter removal button; Figure 2, item 12), that said portable storage device may be safely removed from a host device to which it is coupled (column 6, lines 1 – 25) for the purpose of preventing the removal of the computer readable storage medium from interfering with I/O processes being conducted on it, thereby ensuring a more reliable system.

This specific problem with USB portable storage devices, as taught by Moran et al., is further explained in Deng et al. (paragraph 90) and in Learning (column 6, lines 52 – 57).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the computer program instructions and actuator as taught by Lien et al. into the portable storage device as Moran et al. for the purpose of safely removing the portable storage device without data loss or interfering with other I/O processes being conducted on it. This would have been obvious in order to make the system more reliable.

* * *

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. in view of Lien et al., in view of Deng et al., and further in view of Learning.

Regarding claim 15, Moran et al. teach a body (Examiner takes official notice that it would be obvious to one of ordinary skill in this art at the time of invention by applicant to house all of the components of item 10 in a body for the purpose of protecting and encasing the electronic components within);

A connector (item 14) for removably coupling to a host device such that an operating system of the host device may logically recognize the portable storage device as additional local memory (paragraphs 3, 21);

An intrinsic computer readable storage medium within said body (Figure 1, item 18);

A manual actuator (28, 30, 32);

An indicator (22, 24, 26);

Moran et al. fail to teach the manual actuator for initiating computer instructions to remove said portable storage device from said host device and the indicator for indicating to a user at least that said portable storage device may be removed from said host computer following actuation of said actuator without loss of data and without corruption of data.

Lien et al. teach an indicator (interpreted as a lock mechanism; Figure 3, item 10a), following actuation of said manual actuator (interpreted as an adapter removal

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button; Figure 2, item 12), that said portable storage device may be safely removed from a host device to which it is coupled (column 6, lines 1 – 25) for the purpose of preventing the removal of the computer readable storage medium from interfering with I/O processes being conducted on it, thereby ensuring a more reliable system.

This specific problem with USB portable storage devices, as taught by Moran et al., is further explained in Deng et al. (paragraph 90) and in Learning (column 6, lines 52 – 57).

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the computer program instructions and actuator as taught by Lien et al. into the portable storage device as Moran et al. for the purpose of safely removing the portable storage device without data loss, corruption of data, or interfering with other I/O processes being conducted on it. This would have been obvious in order to make the system more reliable.

Regarding claim 16, Lien et al. teach the additional limitation wherein the computer program instructions comprise an interrupt command directed to the operating system of said host device (column 4, lines 30 – 35).

* * *

Claims 17 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moran et al. in view of Lien et al., in view of Deng et al., in view of Learning, and further in view of Wright et al.

Regarding claim 17, Lien et al. teach wherein said signal comprises an interrupt command (column 4, lines 30 – 35).

Lien et al. fail to teach wherein the interrupt command is stored in said intrinsic computer readable storage medium of said portable storage device.

Wright et al. teach storing program instructions in an intrinsic computer readable storage medium of said portable storage device (Figure 3, item 112; column 2, lines 28 – 49) for the purpose of eliminating the need to store the program instructions on another form of media, reducing the costs of the portable storage device, and making the necessary program instructions available whenever the portable storage device is connected.

Therefore, it would have been obvious to one of ordinary skill in this art at the time of invention by applicant to incorporate the program instructions as taught by Wright et al. into the intrinsic computer readable storage medium of said portable storage device as taught by Moran et al., Lien et al., Deng et al., and Learning in order to reduce the cost of the portable storage device, and more convenient to use.

Regarding claim 18, Lien et al. teach the additional limitation wherein said indicator comprises a tactile indicator (Examiner interprets the disengaging of the lock

mechanism as tactile since the user can then remove the portable storage device, assumingly with his/her hand).

Regarding claim 19, Lien et al. teach the additional limitation wherein said manual actuator is for requesting that a host device grant permission to remove said portable storage device, and said indicator indicates, in response to said host device granting said permission, that said portable storage device may be removed from said host device without loss of data and without corruption of data (column 1, lines 59 – 65; column 2, lines 43 – 63; column 5, line 51 – column 6, line 25).

Regarding claim 20, Lien et al. teach wherein a single user action (interpreted as depression the adapter removal button (Figure 2, item 12)) causes said host operating system to remove said intrinsic computer readable storage medium of said portable storage device from a list of available storage media, said single user action consisting of actuating said manual actuator (column 5, line 51 – column 6, line 24).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew D. Spittle whose telephone number is (571) 272-2467. The examiner can normally be reached on Monday - Friday, 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on 571-272-3632. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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